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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,681	12/11/2001	Michael Anthony Klug	M-8577-3D US	4374

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CAMPBELL STEPHENSON ASCOLESE, LLP
4807 SPICEWOOD SPRINGS RD.
BLDG. 4, SUITE 201
AUSTIN, TX 78759

EXAMINER

CURTIS, CRAIG

ART UNIT PAPER NUMBER

2872

DATE MAILED: 12/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,681

Applicant(s)

KLUG et al.

Examiner

Craig Curtis

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 9, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-41 and 57 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 36-41 and 57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 36-41 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newswanger (5,191,449).

Newswanger discloses the invention as claimed--an apparatus and method for printing holographic stereograms, comprising, inter alia:

a light source (Fig. 4, source 32) that produces a coherent beam;

a beam splitter (Fig. 4, 36) that splits the combined beam into an object beam and a reference beam;

a holographic recording material (50 in Fig. 4);

an object beam unit (Fig. 4, 336, 34, 42, 48, 30, 46, 44, 54 inclusive) including a diffuser (44) for displaying a rendered image and for conditioning the object beam with the rendered image to interfere with the reference beam at a chosen elemental hologram (see Fig. 4);

a masking plate (64) located in the path of the reference beam and proximate to the holographic recording material;

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a voxel control lens located in the path of the object beam and proximate to the holographic recording material (Fig. 4, 46);

wherein the object beam unit includes a SLM (30) for displaying the rendered image and the voxel-control lens has a focal length about equal to the distance between the voxel-control lens and the SLM (See Fig. 4)--EXCEPT FOR explicit teachings of the following claimed limitations:

a material holder (50) holding a holographic recording material capable of recording in color and having elemental holograms (see Fig. 4);

wherein said diffuser for displaying a rendered image and for conditioning the object beam with the rendered image to interfere with the reference beam at a chosen elemental hologram is both band-limited and removable;

wherein said masking plate located in the path of the reference beam and proximate to the holographic recording material is removable;

a computer programmed to control the interference of the object beam and the reference beam and the delivery of the rendered image to the object beam unit (see col. 6, ll. 41-44);

wherein said removable masking plate has at least one positioning adjustment device (see Fig. 4); and

wherein removable band-limited diffuser has at least one positioning adjustment device (Id.).

However, with regard to the lack of an explicit teaching by Newswanger of a material holder holding said holographic recording material capable of recording in color and having elemental holograms, it is noted as being inherent that said holographic recording material (50) is supported by

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a holder of some sort not shown in the figures, as opposed to being suspended extra-physically in mid-air, such supporting of holographic recording material being so well-known in the art as not to require representation in said figures.

With regard to said diffuser for displaying a rendered image and for conditioning the object beam with the rendered image to interfere with the reference beam at a chosen elemental hologram being both band-limited and removable, it is noted that, strictly speaking, said diffuser taught by Newswanger is band-limited, inasmuch as said diffuser would not efficiently pass, for the sake of example, radiation in the infrared band of the electromagnetic spectrum; and with regard to the removability of said diffuser, it is noted as being notoriously old and well-known for optical elements of all types, including diffusers, to be removable from or positionable in optical systems; and as such, such teachings cannot be the basis of patentably distinguishing the instant invention over the prior art.

It would have been obvious to one having ordinary skill in the holographic art at the time the invention was made to have modified the invention of Newswanger such that said diffuser be removable, such teaching being notoriously old and well-known in the holographic/optical system art, for at least the reason of allowing one to position said diffuser easily and variously within said system in order to achieve a desired diffusion effect.

With regard to the removability of said masking plate, it is asserted that it would have been obvious to one having ordinary skill in the holographic art at the time the invention was made to have modified the invention of Newswanger such that said masking plate be removable, such teaching being notoriously old and well-known in the holographic/optical system art, for at least the reason

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of allowing one to position said masking plate easily and variously within said system in order to achieve a desired masking effect.

With regard to the lack of teaching by Newswanger of a computer programmed to control the interference of the object beam and the reference beam and the delivery of the rendered image to the object beam unit, it is noted that such teaching is notoriously old and well-known in the holographic art.

It would have been obvious to one having ordinary skill in the holographic art to have modified the invention of Newswanger such that it further comprise a computer programmed to control the interference of the object beam and the reference beam and the delivery of the rendered image to the object beam unit, such teaching being notoriously old and well-known in the holographic art (e.g., the shuttering of one or both of said object and reference beam(s), etc.), for at least the purpose of controlling in a convenient manner the exposure of said holographic recording material.

Response to Arguments

2. Applicants' arguments filed 9 October 2002 have been fully considered but they are not persuasive. With regard to all but the remarks regarding the voxel-control lens provided below, Applicants are respectfully directed to the text of the above-recited rejections for rebuttal of the other arguments presented in the response filed 9 October 2002.

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Applicants take exception with the Examiner's characterization of lens 46 of Newswanger as said voxel-control lens, asserting that this lens is not "within the meaning of the term as used by the Applicants" and that it is not proximate to said holographic recording material. The Examiner respectfully disagrees with each of these assertions.

With regard to the allegation by Applicants that lens 46 of Newswanger is not a voxel-control lens, Applicants are reminded that while the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. Thus, absent a showing by Applicants in the claims of a unique feature of a "voxel-control" lens that lens 46 of Newswanger lacks, the Examiner is justified in denominating said lens of Newswanger as a voxel-control lens, thereby interpreting broadly the adjective "voxel-control."

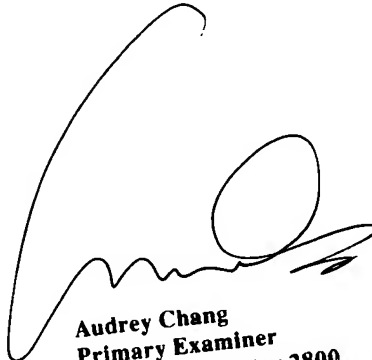
With regard to the additional allegation by Applicants that lens 46 of Newswanger is not proximate to said holographic material, Applicants are apprised that one definition of proximate is "very near: close" (Merriam Webster's Collegiate Dictionary--10th ed.), and it is submitted that lens 46, if not very near (a relative concept in any event) to said holographic material, is most certainly close to same. As such, the Examiner maintains that said voxel-control lens 46 of Newswanger is proximate to said holographic material.

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Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig Curtis, whose telephone number is (703) 305-0776. The facsimile phone number for Art Unit 2872 is (703) 308-7721.

Any inquiry of a general nature regarding the status of this application should be directed to the Group receptionist, whose telephone number is (703) 308-0956.



**Audrey Chang
Primary Examiner
Technology Center 2800**

Craig H. Curtis
Craig H. Curtis
Group Art Unit 2872
27 December 2002